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BOCKET NO.: CELL-0086

PATENT

RESPONSE UNDER 37 CHR EXPEDITEDRE A 100 R EXAMINO GROUP (SE

In the Claims

Please amend claims 7, 9, 10, 13, 14 and 16 to read as follows.

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7. (Twice amended) A compound according to Claim 16 in which Ar^2 is a 1,4-phenylene group optionally substituted with one or two atoms or groups $-L^2(Alk)_tL^3(R^4)_u$.

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- 9. (Twice amended) A compound according to Claim 16 in which Ar^1 is a pyrimidinyl, pyridyl or phenyl group optionally substituted with one or more atoms or groups $-L^2(Alk)_tL^3(R^4)_u$.
- 10. (Amended) A compound according to Claim 9 in which Ar^1 is a pyridyl or phenyl group optionally substituted with one or more atoms or groups $-L^2(Alk)_tL^3(R^4)_u$.

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13. (Amended) A compound according to Claim 12 in which R^3 is a pyrrolidinyl or thiazolidinyl group optionally substituted with one or more halogen atoms, C_{1-6} alkyl groups, halo C_{1-6} alkyl groups optionally substituted with one or more hydroxyl groups, hydroxyl groups, C_{1-6} alkoxy groups, halo C_{1-6} alkoxy groups, thiol groups, C_{1-6} alkylthio groups, aromatic groups, heteroaromatic groups, or $-(Alk^2)_vR^{10}$ groups, and each nitrogen atom of the pyrrolidinyl or thiazolidinyl group is optionally substituted with a group $-(L^5)_p(Alk^3)_qR^{12}$;

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or R^3 is a phenyl, pyrimidinyl or 1,3,5-triazinyl group optionally substituted with one or more atoms or groups $-R^{13a}$ or $-Alk^4(R^{13a})_m$.



14. (Amended) A compound which is:

3-{4-[(3,5-Dichloroisonicotinoyl)amino]phenyl}-3-({4-[2-hydroxyethylamino]-6-methoxy-1,3,5-triazin-2-yl}amine)propanoic acid;

3-[(3,5-Dichloroisonicotinoyl)amino]-3-{4-[(3,5-dichloroisonicotinoyl)-amino]phenyl}propanoic acid;

3 - { 4 - [(3,5 - Dichloroisonicotinoyl) a mino] phenyl} - 3 - [(2,6 - dimethoxybenzoyl) amino] propanoic acid;

3-({[(4S)-3-Acetyl-1,3-thiazolinan-4-yl]carbonyl}amino-3-{4-[(3,5-dichloroisonicotinoyl)amino]phenyl}propanoic acid;

3-{4-[(3,5-Dichloroisonicotinoyl)amino]phenyl}-3-[({(2S)-1-[(3,5-dichlorophenyl)sulphonyl]tetrahydro-1-H-pyrrol-2-yl}carbonyl)amino]propanoic acid;

(2RS,3RS)-3-{4-[(3,5-Dichloroisonicotinoyl)amino]phenyl}-3-{[((2S)-1-[(3,5-dichlorophenyl)sulphonyl]tetrahydro-1-H-pyrrol-2-yl)carbonyl]amino}-2-hydroxypropanoic acid;

3-{4-[(3,5-Dichloroisonicotinoyl)amino]phenyl}-3-[({2-[(2,5-dimethoxyphenyl)thio]-3-pyridinyl}carbonyl)amino]propanoic acid;

and the salts, hydrates and N-oxides thereof.

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(Amended three times) A compound of formula (1):

 $Ar^{1}(Alk^{a})_{r}L^{1}Ar^{2}CH(R^{1})C(R^{a})(R^{a'})R$ (1)

wherein

 Ar^{1} is an aromatic or $C_{1.9}$ heteroaromatic group containing one to four heteroatoms seleted from oxygen, nitrogen, and sulfur, and is optionally substituted with one or more atoms or groups $-L^{2}(Alk)_{t}L^{3}(R^{4})_{u}$;

L² and L³, which may be the same or different, is each a covalent bond or a divalent linker atom or group selected from -O-, -S-, -C(O)-, -C(O)O-, -OC(O)-, -C(S)-, -S(O)-, -S(O)₂-, -N(R⁸)-, -CON(R⁸)-, -OC(O)N(R⁸)-, -CSN(R⁸)-, -N(R⁸)CO-, -N(R⁸)CO-, -N(R⁸)CO)₂-, -N(R⁸)CON(R⁸)-, -N(R⁸)CON(R⁸)-, and -N(R⁸)SO₂N(R⁸)-;

 R^8 is a hydrogen atom or a C_{1-6} alkyl group optionally substituted with one or more halogen atoms, hydroxy groups, or C_{1-6} alkoxy groups;

t is zero or the integer 1;

u is an integer 1, 2 or 3;

Alk is an aliphatic or heteroaliphatic chain;

 R^4 is a hydrogen or halogen atom or a group selected from C_{1-6} alkyl, $-OR^5$, $-SR^5$, $-NR^5R^6$, $-NO_2$, -CN, $-CO_2R^5$, $-SO_3H$, $-SO_3R^5$, $-SO_2R^5$, $-SO_2R^5$, $-OCO_2R^5$, $-CONR^5R^6$,



-OCONR⁵R⁶, -CSNR⁵R⁶, -COR⁵, -OCOR⁵, -N(R⁵)COR⁶, -N(R⁵)CSR⁶, -SO₂N(R⁵)(R⁶), -N(R⁵)SO₂R⁶, -N(R⁵)CON(R⁶)(R⁷), -N(R⁵)CSN(R⁶)(R⁷), and -N(R⁵)SO₂N(R⁶)(R⁷); and

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 R^5 , R^6 , and R^7 , which may be the same or different, is each a hydrogen atom or a straight or branched C_{1-6} alkyl group optionally substituted with one or more halogen atoms, hydroxy groups, or C_{1-6} alkoxy groups;

provided that when t is zero and each of L^2 and L^3 is a covalent bond, then u is the integer 1 and R^4 is other than a hydrogen atom;

 L^1 is a covalent bond or a linker atom or group selected from -CON(R^2)-, -S(O)₂N(R^2)-, -N(R^2)-, and -O-;

R² is a hydrogen atom or a C₁₋₃ alkyl group;

 $Ar^2 \ is \ a \ phenylene \ group \ optionally \ substituted \ with \ one \ or \ two \ atoms \ or \ groups$ $-L^2(Alk)_tL^3(R^4)_u;$

 R^1 is a group selected from -NHCOR³, -NHSO₂R³, -NHR³, -NHC(O)OR³, -NHCSR³, -NHCON(R³)(R^{3a}), -NHSO₂N(R³)(R^{3a}), and -NHCSN(R³)(R^{3a});

 R^3 is an optionally substituted C_{3-10} cycloaliphatic group, an optionally substituted C_{7-10} polycycloaliphatic group, an optionally substituted C_{3-10} heterocycloaliphatic group containing one, two, three or four heteroatoms or heteroatom-containing groups selected from -O-, -S-, -C(O)-, -C(O)O-, -C(O)-, -

-N(R⁸)CON(R⁸)-, -N(R⁸)CSN(R⁸)- and -N(R⁸)SO₂N(R⁸)-; an optionally substituted C_{7-10} heteropolycycloaliphatic group containing one, two, three or four heteroatoms or heteroatom-containing groups selected from -O-, -S-, -C(O)-, -C(O)O-, OC(O)-, -C(S)-, -S(O)-, -S(O)₂-, -N(R⁸)-, -C(O)NR⁸-, -OC(O)N(R⁸)-, -CSN(R⁸)-, -N(R⁸)CO-, -N(R⁸)C(O)O-, -N(R⁸)CS-, -S(O)₂N(R⁸)-, -N(R⁸)S(O)₂-, -N(R⁸)CON(R⁸)-, -N(R⁸)CSN(R⁸)- and -N(R⁸)SO₂N(R⁸)-; an optionally substituted aromatic group, or an optionally substituted C_{1-9} heteroaromatic group containing one, two, three or four heteroatoms seleted from oxygen, nitrogen, and sulfur;

R^{3a} is a hydrogen atom, an optionally substituted C_{1-6} aliphatic group, an optionally substituted C_{1-6} heteroaliphatic group containing one, two, three or four heteroatoms or heteroatom-containing groups selected from -O-, -S-, -C(O)-, -C(O)O-, OC(O)-, -C(S)-, -S(O)-, -S(O)₂-, -N(R⁸)-, -C(O)NR⁸-, -OC(O)N(R⁸)-, -CSN(R⁸)-, -N(R⁸)CO-, -N(R⁸)CO-, -N(R⁸)CO)₂-, -N(R⁸)CON(R⁸)-, -N(R⁸)CSN(R⁸)- and -N(R⁸)SO₂N(R⁸)-, an optionally substituted C_{3-10} cycloaliphatic group, an optionally substituted C_{7-10} polycycloaliphatic group, an optionally substituted C_{3-10} heterocycloaliphatic group containing one, two, three or four heteroatoms or heteroatom-containing groups selected from -O-, -S-, -C(O)-, -C(O)O-, OC(O)-, -C(S)-, -S(O)-, -S(O)₂-, -N(R⁸)-, -C(O)NR⁸-, -OC(O)N(R⁸)-, -N(R⁸)CON(R⁸)-, -N(R⁸)CON(R⁸)-, -N(R⁸)CSN(R⁸)- and -N(R⁸)SO₂N(R⁸)-; an optionally substituted C_{7-10} heteropolycycloaliphatic group containing one, two, three or four heteroatoms or heteroatom-containing groups selected from -O-, -S-, -C(O)-, -C(O)O-, -C(S)-, -S(O)-, -S(O)-, -S(O)-, -S(O)-, -C(S)-, -S(O)-, -S(O)-, -S(O)-, -C(S)-, -S(O)-, -S(O)-,

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-N(R⁸)-, -C(O)NR⁸-, -OC(O)N(R⁸)-, -CSN(R⁸)-, -N(R⁸)CO-, -N(R⁸)C(O)O-, -N(R⁸)CS-, -S(O)₂N(R⁸)-, -N(R⁸)S(O)₂-, -N(R⁸)CON(R⁸)-, -N(R⁸)CSN(R⁸)- and -N(R⁸)SO₂N(R⁸)-; an optionally substituted aromatic group, or an optionally substituted $C_{1.9}$ heteroaromatic group containing one, two, three or four heteroatoms seleted from oxygen, nitrogen, and sulfur;

wherein the optional substituents for the aromatic groups and the heteroaromatic groups of R^3 and R^{3a} are selected from one or more atoms or groups R^{13} wherein R^{13} is $-R^{13a}$ or $-Alk^4(R^{13a})_m$;

R^{13a} is a halogen atom, or an amino, substituted amino, nitro, cyano, amidino, hydroxyl, substituted hydroxyl, formyl, carboxyl, esterified carboxyl, thiol, substituted thiol, -COR¹⁴; -CSR¹⁴, -SO₃H, -SOR¹⁴, -SO₂R¹⁴, -SO₂NH₂, -SO₂NHR¹⁴, -SO₂N(R¹⁴)₂, -CONH₂, -CSNH₂, -CONHR¹⁴, -CSNHR¹⁴, -CON(R¹⁴)₂, -CSN(R¹⁴)₂, -N(R¹¹)SO₂R¹⁴, -N(SO₂R¹⁴)₂, -N(R¹¹)SO₂NH₂, -N(R¹¹)SO₂NHR¹⁴, -N(R¹¹)SO₂N(R¹⁴)₂, -N(R¹¹)COR¹⁴, -N(R¹¹)CONH₂, -N(R¹¹)CONHR¹⁴, -N(R¹¹)CON(R¹⁴)₂, -N(R¹¹)CSNH₂, -N(R¹¹)CSNHR¹⁴, -N(R¹¹)CSN(R¹⁴)₂, -N(R¹¹)CSNHet¹, -CONHet¹, -CSNHet¹, -N(R¹¹)SO₂NHet¹, -N(R¹¹)CONHet¹, -N(R¹¹)CSNHet¹, -SO₂NHet¹, -CONHet¹, -CONHet¹, -CSNHet¹, -CSN(R¹¹)Het², -N(R¹¹)CON(R¹¹)Het², -N(R¹¹)CON(R¹¹)Het², -N(R¹¹)CSN(R¹¹)Het², aryl or heteroaryl group;

 R^{14} is an -Alk⁴ $(R^{13a})_m$, aryl or heteroaryl group;

NHet¹ is a C_{5-7} cyclicamino group optionally containing one or more -O- or -S- atoms or -N(R¹¹)-, -C(O)- or -C(S)- groups and optionally substituted with one or more substituents as defined for the cycloaliphatic groups of R³ and R^{3a};

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Het² is a monocyclic C_{5-7} carbocyclic group optionally containing one or more -O-or -S- atoms or -N(R¹¹)-, -C(O) or -C(S)- groups and optionally substituted with one or more substituents as defined for the cycloaliphatic groups of R^3 and R^{3a} ;

 $Alk^4 is a straight or branched C_{1-6} alkylene, C_{2-6} alkenylene or C_{2-6} alkynylene chain, \\$ optionally interrupted by one, two, or three -O- or -S- atoms or -S(O)_n or -N(R¹⁵)- groups;

R¹⁵ is a hydrogen atom or C_{1.6}alkyl group;

m is zero or an integer 1, 2 or 3;

n is an integer 1 or 2;

wherein the optional substituents for the aliphatic groups and the heteroaliphatic groups of R^{3a} are selected from halogen atoms, hydroxy groups, $C_{1.6}$ alkoxy groups, thiol groups, $C_{1.6}$ alkylthio groups, amino groups, and substituted amino groups;

wherein the optional substituents for the cycloaliphatic, polycycloaliphatic, heterocycloaliphatic and heteropolycycloaliphatic groups of R^3 and R^{3a} are selected from halogen atoms, C_{1-6} alkyl groups, halo C_{1-6} alkyl groups optionally substituted with hydroxyl groups, hydroxyl groups, C_{1-6} alkoxy groups, halo C_{1-6} alkoxy groups, thiol groups, C_{1-6} alkylthio groups, aromatic groups, heteroaromatic groups, and -(Alk²), R^{10} groups;

 Alk^2 is a straight or branched C_{1-3} alkylene chain;

v is zero or an integer 1;

 $R^{10} \text{ is a -OH, -SH, -N}(R^{11})_2, \text{-CN, -CO}_2R^{11}, \text{-NO}_2, \text{-CON}(R^{11})_2, \text{-CSN}(R^{11})_2, \\ \text{-OC}(O)N(R^{11})_2, \text{-C}(O)H, \text{-COR}^{11}, \text{-OC}(O)R^{11}, \text{-C}(S)R^{11}, \text{-CSN}(R^{11})_2, \text{-N}(R^{11})COR^{11}, \\ \text{-OC}(O)N(R^{11})_2, \text{-N}(R^{11})_2, \text{-N}(R^{11})_2, \text{-N}(R^{11})_2, \text{-N}(R^{11})_2, \\ \text{-OC}(O)N(R^{11})_2, \text{-N}(R^{11})_2, \text{-N}(R^{11})_2, \\ \text{-OC}(O)N(R^{11})_2, \text{-N}(R^{11})_2, \text{-N}(R^{11})_2, \\ \text{-N}(R^{11})_2$



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 $-N(R^{11})CSR^{11}, \quad -SO_3H, \quad -SOR^{11}, \quad -SO_2R^{11}, \quad -SO_3R^{11}, \quad -SO_2N(R^{11})_2, \quad -N(R^{11})SO_2R^{11}, \\ -N(R^{11})CON(R^{11})_2, \quad -N(R^{11})CSN(R^{11})_2, \quad \text{or } -N(R^{11})SO_2N(R^{11})_2 \text{ group; and}$

 R^{11} is an atom or group as defined for R^8 or an optionally substituted cycloaliphatic or hetercycloaliphatic group as defined for R^3 ;

and when R^3 is a heterocycloaliphatic group containing one or more nitrogen atoms each nitrogen atom is optionally substituted with a group $-(L^5)_p(Alk^3)_qR^{12}$;

 $L^5 \text{ is -C(O)-, -C(O)O-, -C(S)-, -S(O)-, -S(O)_2-, -CON(R^{11})-, -CSN(R^{11})-,} \\ -SON(R^{11}) - \text{ or -SO}_2N(R^{11})-; \\$

p is zero or an integer 1;

Alk³ is an optionally substituted aliphatic or heteroaliphatic chain;

q is zero or an integer 1;

R¹² is a hydrogen atom or an optionally substituted cycloaliphatic, heterocycloaliphatic, polycycloaliphatic, polyheterocycloaliphatic, aromatic or heteroaromatic group;

 R^a and $R^{a'}$, which may be the same or different, are each independently selected from a hydrogen or halogen atom or an optionally substituted straight or branched alkyl, alkenyl, alkynyl, haloalkyl, alkoxy, haloalkoxy, alkylthio or - $(Alk^b)_mR^b$ group (in which Alk^b is a C_{1-3} alkylene chain, m is zero or the integer 1, and R^b is -OH, -SH, -NO₂, -ÇN, -CO₂H, -CO₂R^c (where R^c is an optionally substituted straight or branched C_{1-6} alkyl group), -SO₃H, -SOR^c, -SO₂R^c, -SO₃R^c, -OCO₂R^c, -C(O)H, -C(O)R^c, -OC(O)R^c, -C(S)R^c, -NR^dR^e (where R^d and R^e , which may



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be the same or different, are each a hydrogen atom or an optionally substituted straight or branched C_{1-6} alkyl group), $-CON(R^d)(R^e)$, $-OC(O)N(R^d)(R^e)$, $-N(R^d)C(O)R^e$, $-CSN(R^d)(R^e)$, $-N(R^d)C(S)R^e$, $-S(O)_2N(R^d)(R^e)$, $-N(R^d)SO_2R^e$, $-N(R^d)CON(R^e)(R^f)$ (where R^f is a hydrogen atom or an optionally substituted straight or branched C_{1-6} alkyl group), $-N(R^d)C(S)N(R^e)(R^f)$ or $-N(R^d)SO_2N(R^e)(R^f)$ group);

Alk^a is an optionally substituted C_{1-6} aliphatic or C_{1-6} heteroaliphatic chain containing one, two, three or four heteroatoms or heteroatom-containing groups selected from -O-, -S-, -C(O)-, -C(O)O-, -C(O)-, -C(S)-, -S(O)-, -S(O)-, $-N(R^8)$ -, $-N(R^8)$ -, $-N(R^8)$ CO-, $-N(R^8)$ C(O)O-, $-N(R^8)$ CS-, -S(O)₂N(R⁸)-, $-N(R^8)$ S(O)₂-, $-N(R^8)$ CON(R⁸)-, $-N(R^8)$ CSN(R⁸)-, and $-N(R^8)$ SO₂N(R⁸)-;

wherein the optional substituents for the aliphatic and heteroaliphatic groups of Alka are selected from halogen atoms, hydroxy groups, C₁₋₆alkoxy groups, thiol groups, C₁₋₆alkylthio groups, amino groups, and substituted amino groups;

r is zero or the integer 1;

R is a carboxylic acid (CO_2H), a carboxylic ester group, or carboxylic amide group;

and the salts, hydrates and N-oxides thereof.

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iv. (Twice amended) A method for the treatment of a mammal suffering from inflammatory arthritis, multiple sclerosis, allograft rejection, diabetes, inflammatory dermatoses, asthma or